

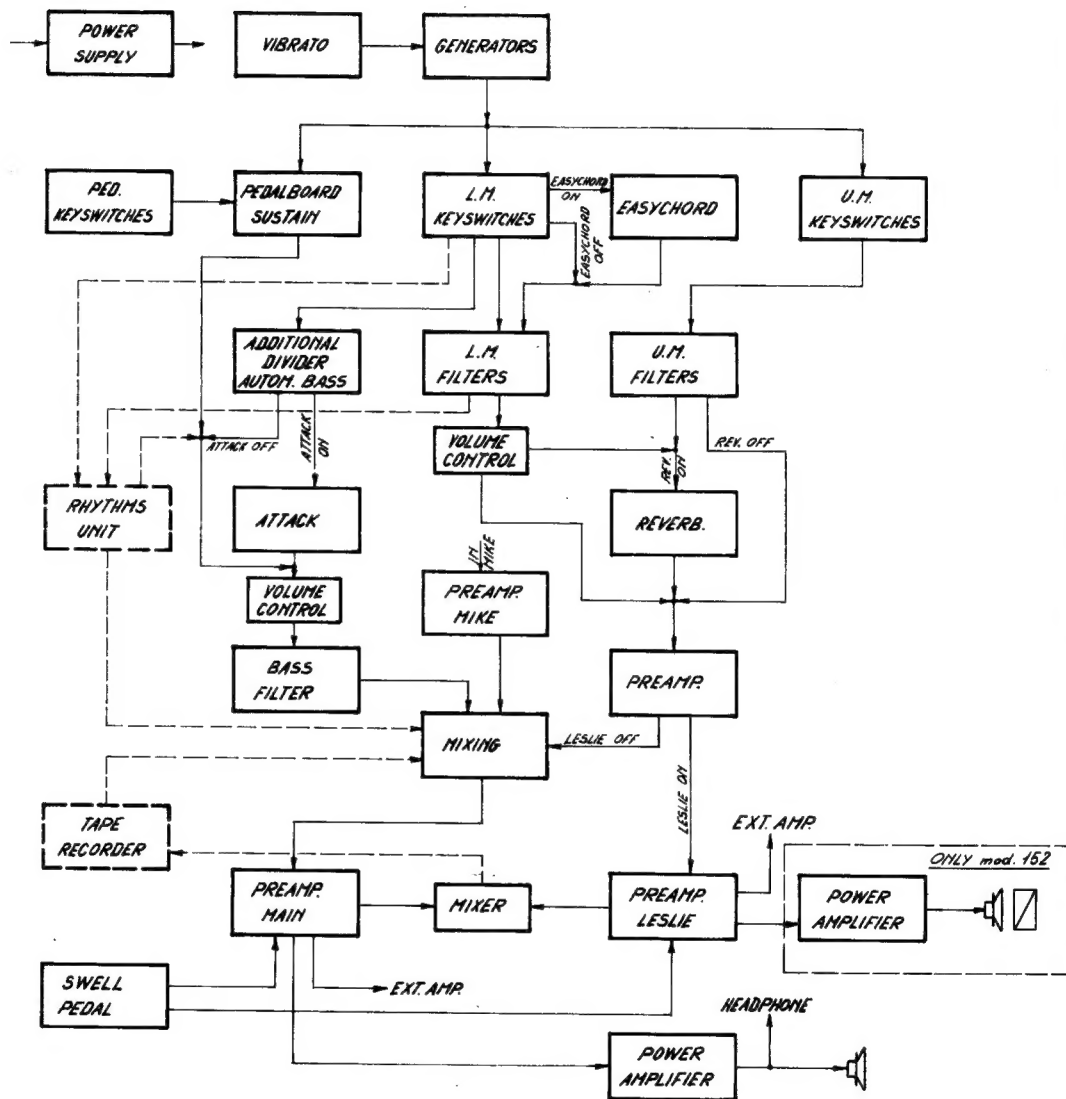
EFARFISA

ELECTRONIC ORGANS

MOD 151~152

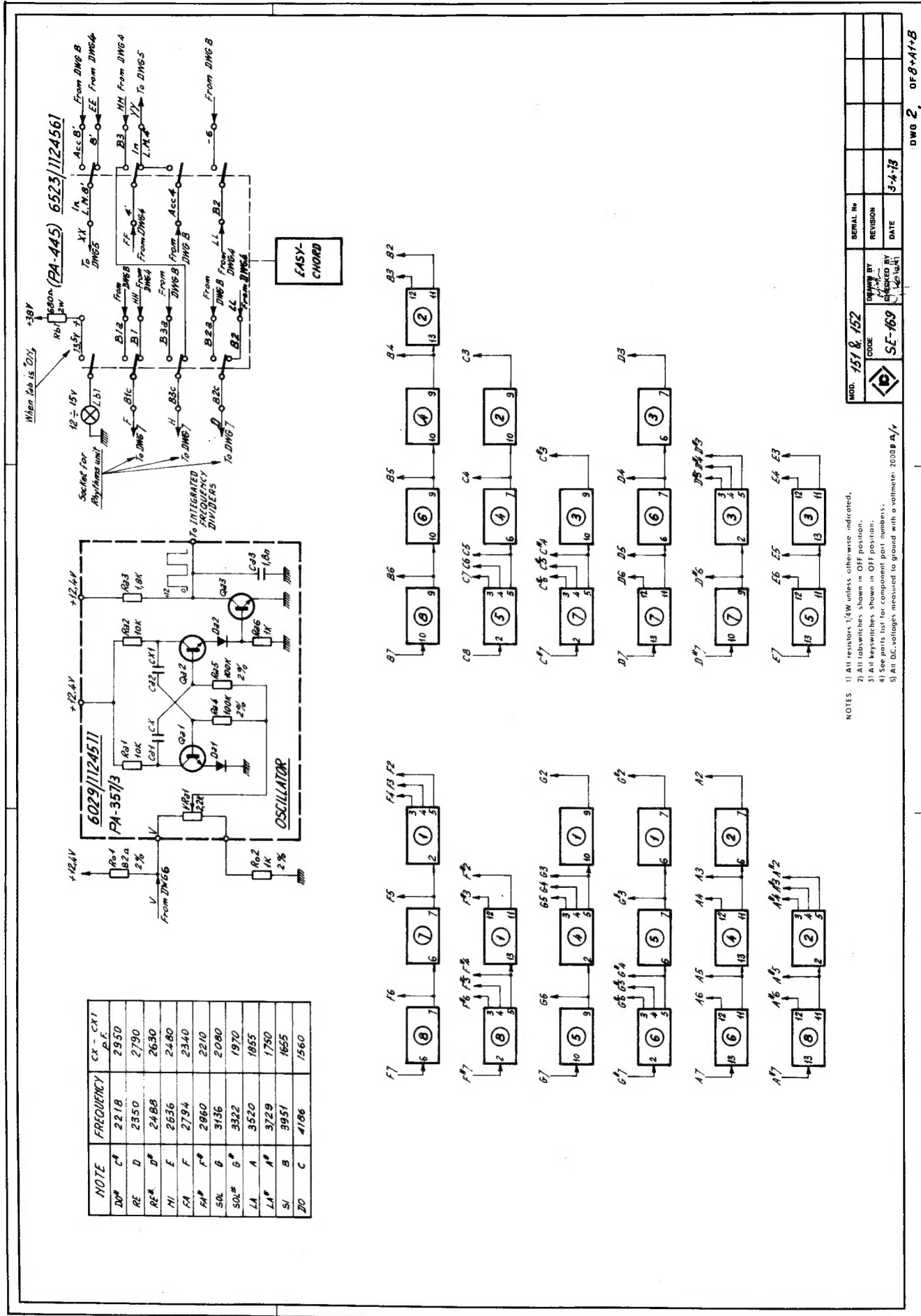
SCHEMATIC DIAGRAMS

BLOCK DIAGRAM



NOTES: 1) All resistors 1/4W unless otherwise indicated.
2) All tabswitches shown in OFF position.
3) All keyswitches shown in OFF position.
4) See parts list for component part number.
5) All DC voltages measured to ground with a voltmeter 2000Ω 24

MOD.	SERIAL NO.	REVISION	DATE	DWG.	BY	CHKD.	APP'D.
151 & 152				1	SC-169		



NOTE	FREQUENCY	CX - CX1
DO# C#	2218	2950
RE D	2350	2790
RE# D#	2488	2630
HI E	2636	2480
FA F	2794	2340
FA# F#	2960	2210
SOL G	3136	2080
SOL# G#	3322	1970
LA A	3520	1855
LA# A#	3729	1750
SI B	3951	1655
SD C	4186	1560

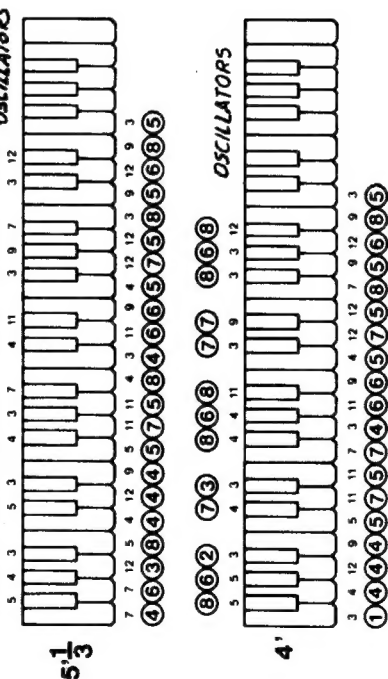
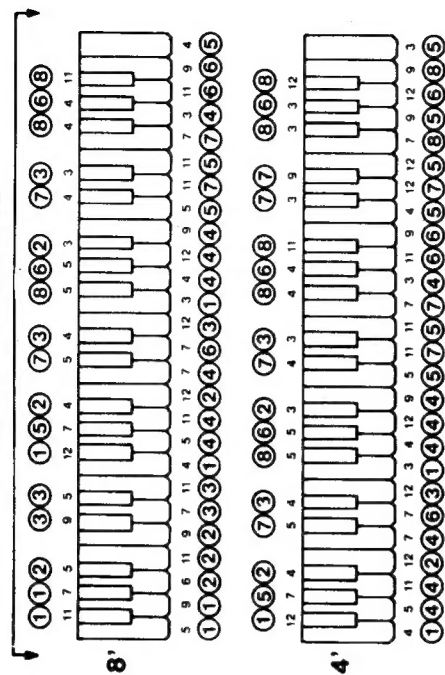
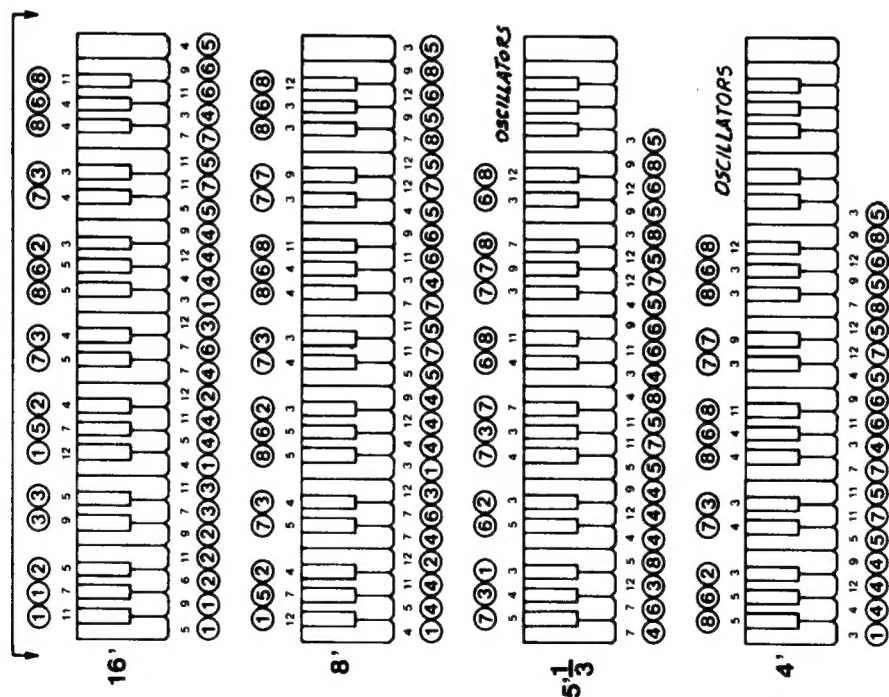
NOTES: 1) All resistors 1/4W unless otherwise indicated.
2) All labswitches shown in OFF position.
3) All keyswitches shown in OFF position.
4) See parts list for component part numbers.
5) All DC voltages measured to ground with a voltmeter 2000 ohm A/V.

MOD. 151 B 152	CODE	DESIGNED BY	SERIAL NO.
151 B 152	151 B 152	151 B 152	151 B 152
151 B 152	151 B 152	151 B 152	151 B 152
151 B 152	151 B 152	151 B 152	151 B 152

REFERENCE TABLE KEY to GENERATOR-BOARD

UPPER MANUAL

LOWER MANUAL



NOTES:
1) The tone generator of the keyboard notes are indicated with two numbers. The circled number, that appears also on the printed circuit board PA-4472, indicates the integrated circuit; the second number indicates the integrated circuit pin.
2) Assembly of the I.C.s. should be made as shown in figures 1. and 2.

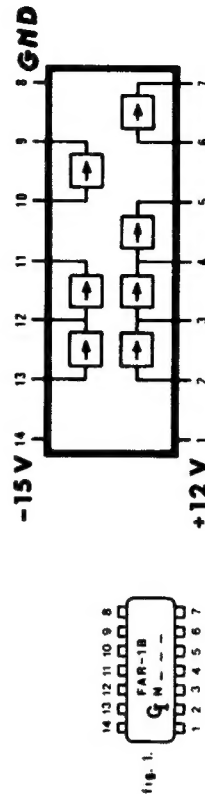


Fig. 1.

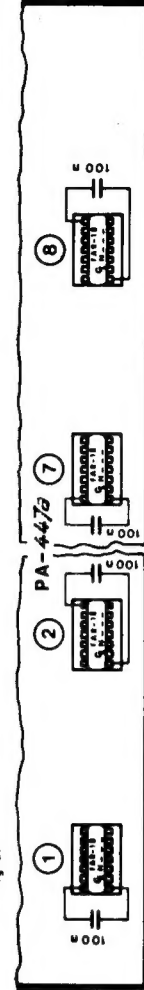
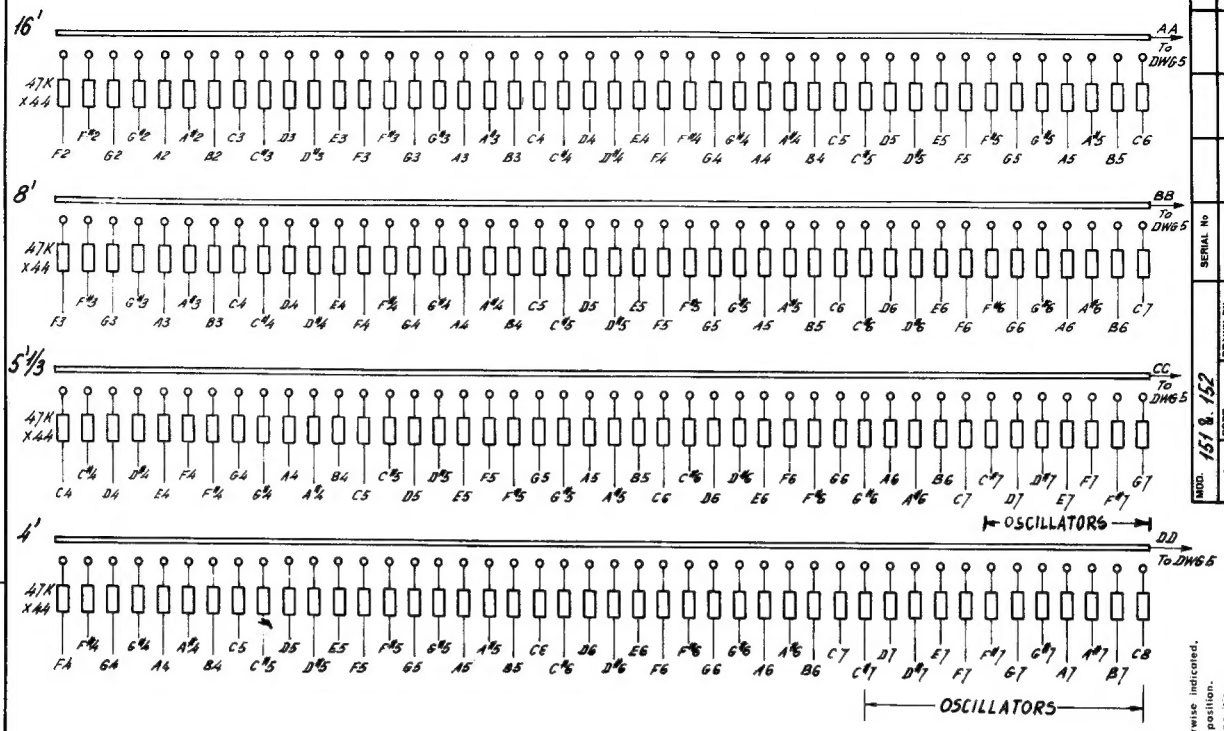


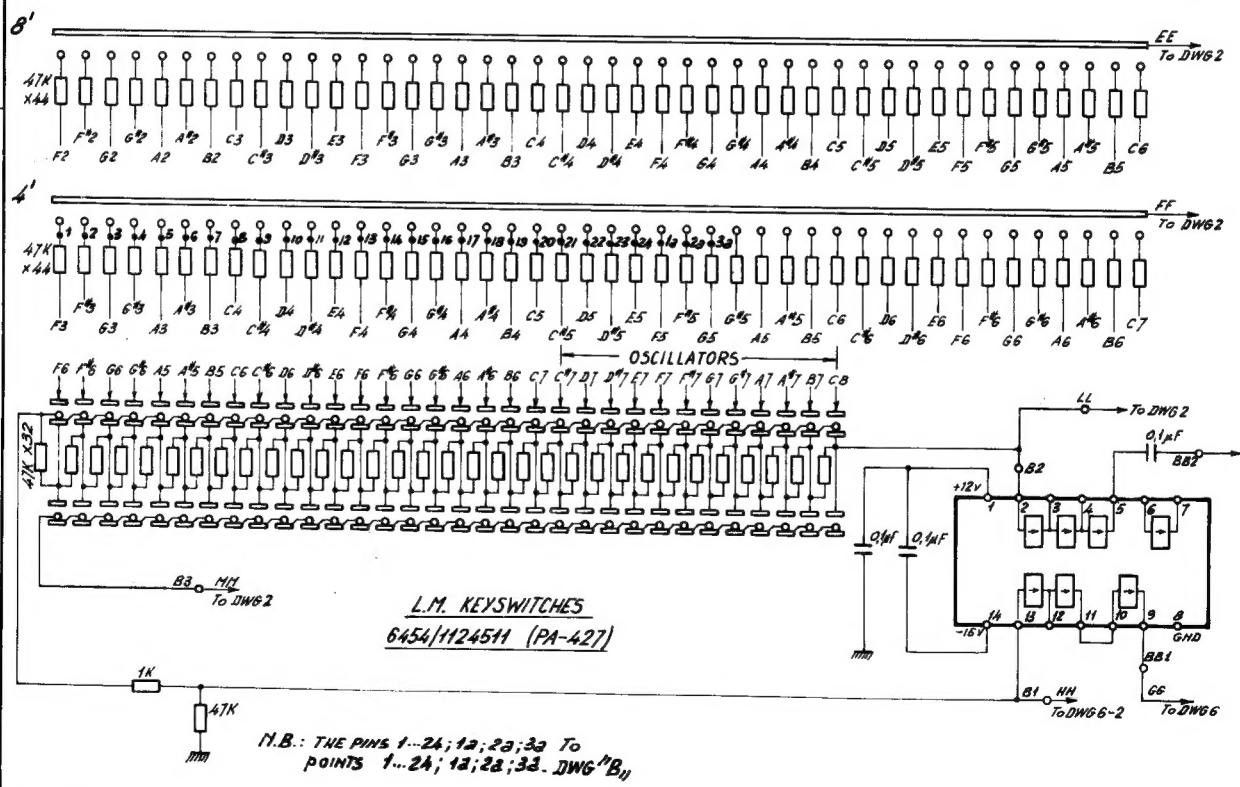
Fig. 2.

MOD 151 B-152	SERIAL No.	REVISION	DATE
CODE	SE-169	3-3-73	



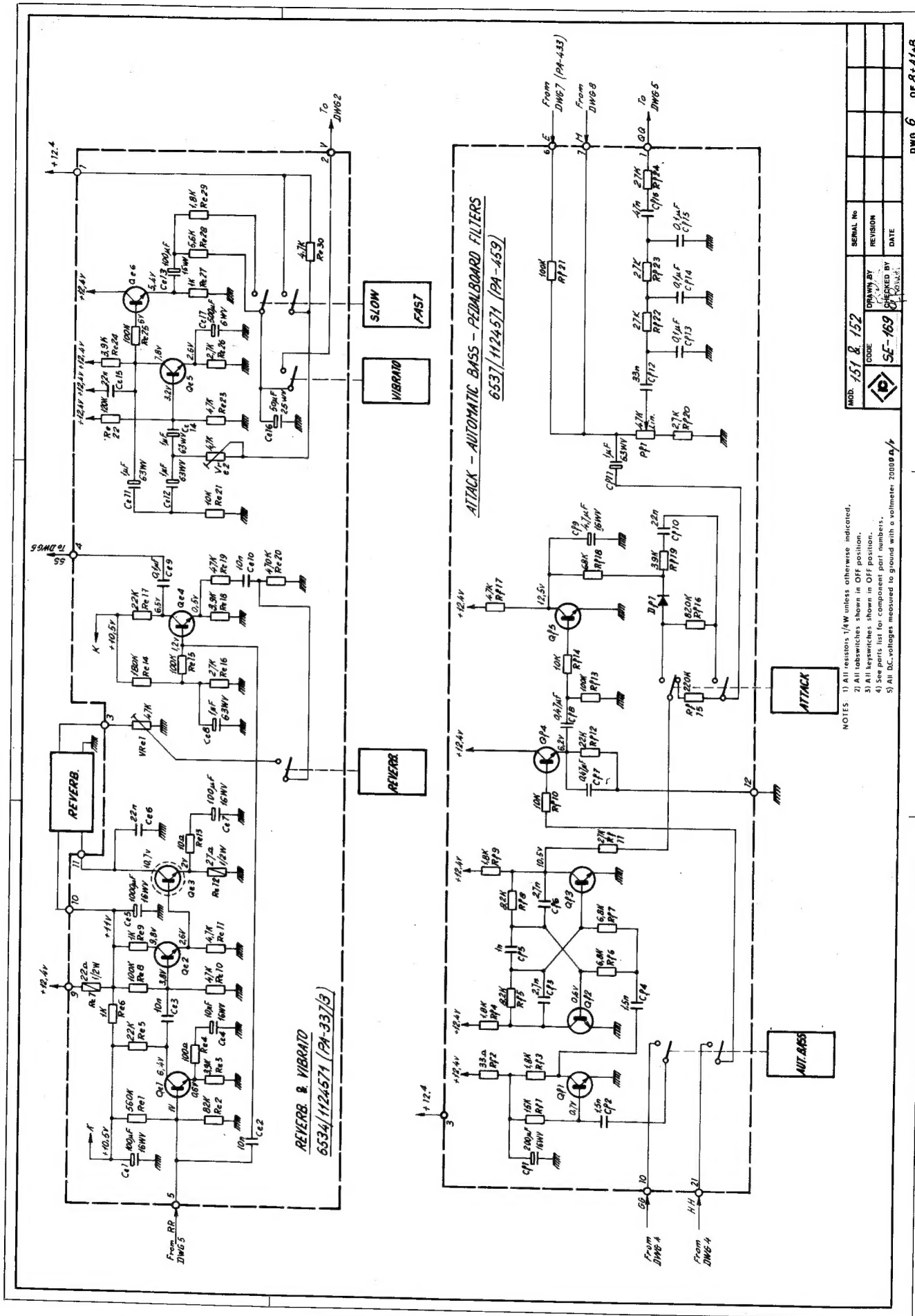
U.M. KEYSWITCHES
6533/H24571 (PA-447/1)

NOTES: 1) All resistors 1/4W unless otherwise indicated.
2) All tabswitches shown in OFF position.
3) All keyswitches shown in OFF position.
4) See parts list for component part numbers.
5) All DC voltages measured to ground with a voltmeter 2000mV.

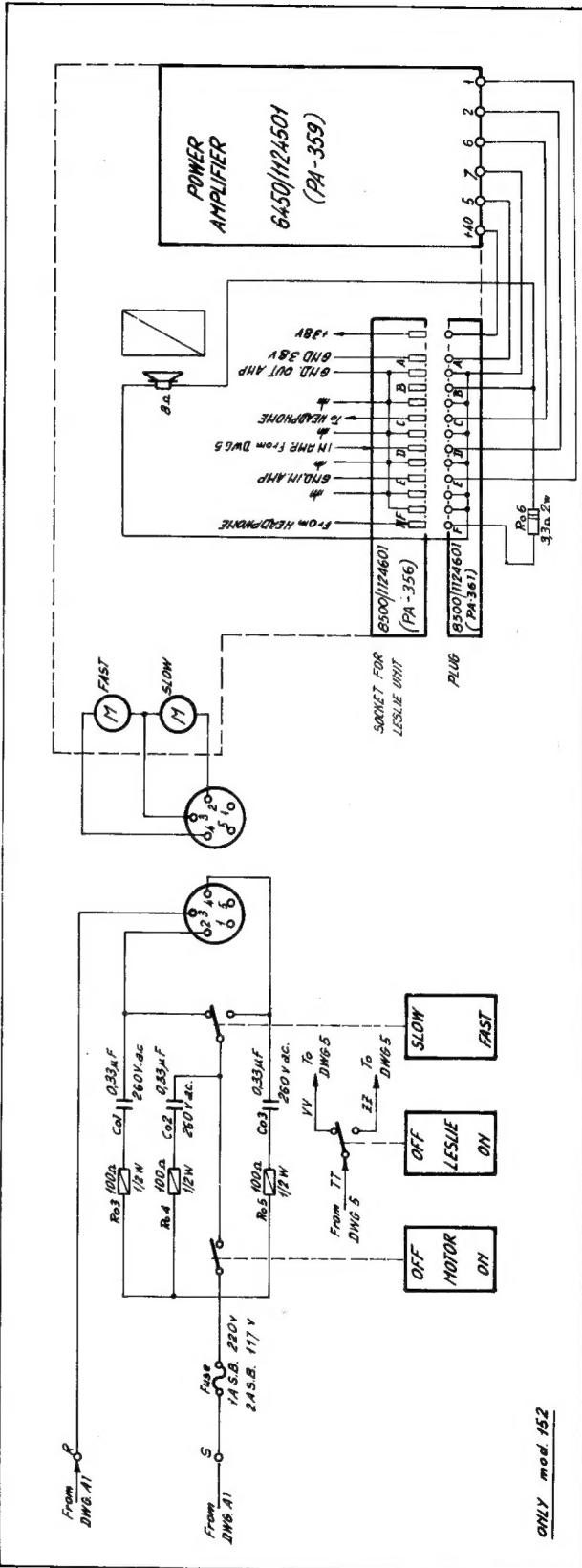
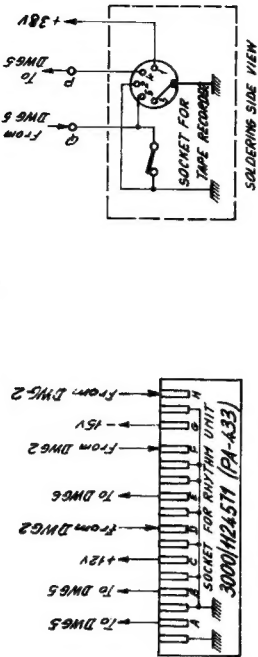
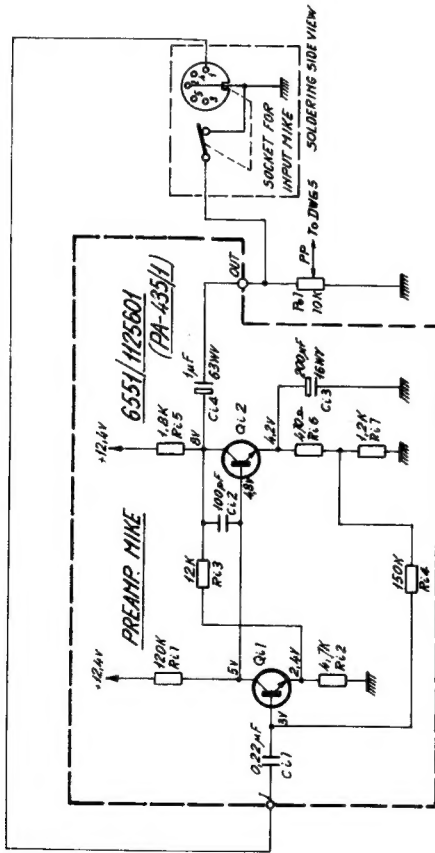


L.M. KEYSWITCHES
6454/H24571 (PA-427)

N.B.: THE PINS 1-24; 12; 23; 32 TO
POINTS 1-24; 12; 23; 32. DWG 'B''.



N.B.: The points B-4h are directly connected on models 151-152/without PARTNER 15)



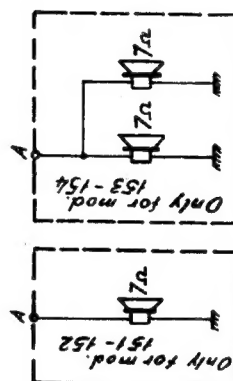
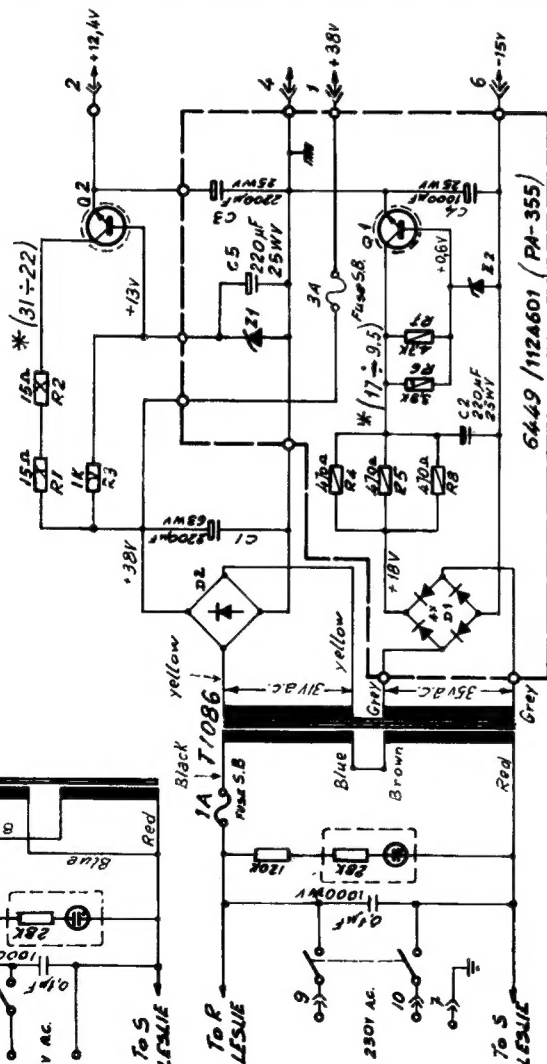
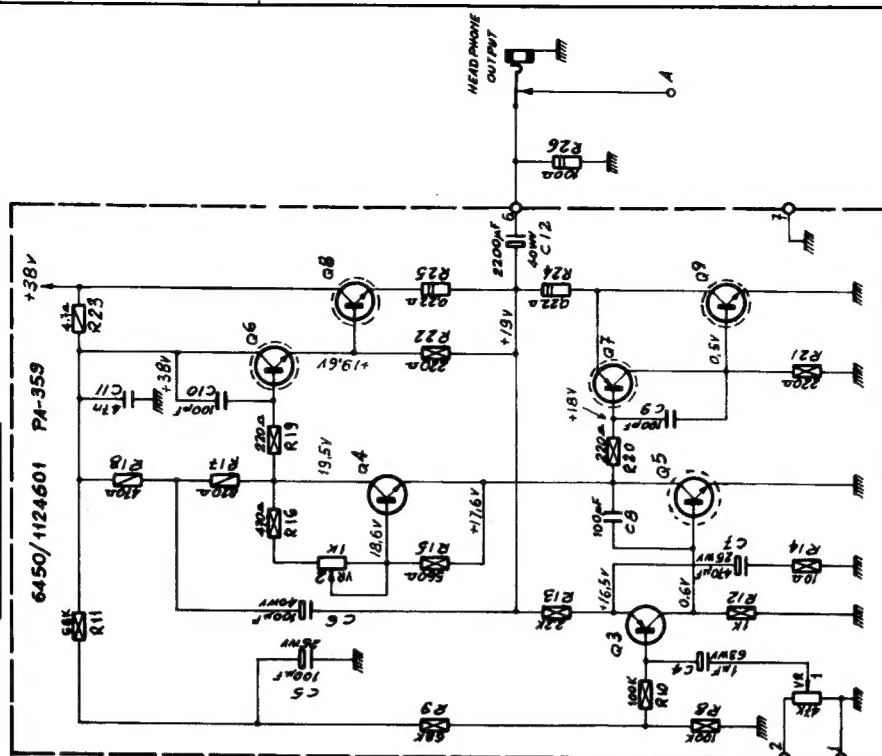
ONLY mod. 152

- NOTES
- 1) All resistors 1/4W unless otherwise indicated.
 - 2) All labswitches shown in OFF position.
 - 3) All labswitches shown in OFF position.
 - 4) See parts list for component part numbers.
 - 5) All DC voltages measured to ground with a voltmeter 20000 ohm.

MOD. 151-152	REVISION	DATE
CODE	5E-163	3-3-73
DRAWN BY	BY	DATE
CHECKED BY	BY	DATE

POWER SUPPLY

POWER AMPLIFIER



TRANSISTORS & DIODES.			
Q1	BC 206	W/64	
Q2	156-043	W/114	
D1	SFD/82	A/72	
D2	B40-C2200	Y/14-Y/15	
Z1	1213	B/105	
Z2	ZF15	B/106	
Q3	1W9640	W/89	
Q4	BC 207/a-b-BC209b-c	W/100-W/103-W/110-W/111	
Q5-Q6	BC286	W/64	
Q7	BC287	W/65	
Q8-Q9	156-043 - H9340	W/114 - W/164	

RESISTORS

 = 1/8 WATT
 = 1/2 WATT
 = 2 WATT
 = 5 WATT
 = 10 WATT

N.B: All D.C. voltages measured to ground with a voltmeter 20 000 Ω/V

NOTES: 1) All resistors 1/8 W unless otherwise indicated.
2) All subswitches shown in OFF position.
3) All keyswitches shown in OFF position.
4) See parts list for component part numbers.

154	NO.	151-152-153	DOOR	DRAWN BY C. J. J. J.	SERIAL No					
					REVISION					
					DATE					



NOTES

- 1) All resistors 1/4W unless otherwise indicated.
- 2) All tabswitches shown in OFF position.
- 3) All keyboards shown in OFF position.
- 4) See parts list for component part numbers.
- 5) All DC voltages measured to ground with a voltmeter.

MOD. 151-152-153-154		CODE	DRAWN BY 	CHECKED BY 	SERIAL No					
					REVISION					
					DATE					

Models 151 & 152

TRANSISTORS (Q) & DIODES (D) LIST

①

Schem. Ref.	Circuit	Type	Part Code
<u>CHASSIS</u>	<u>POWER SUPPLY CHASSIS (DWG A1/SE 166)</u>		<u>8000/1124601</u>
Q 2	Series Stabilizer.....	Westinghouse 156 - 043 Solitron H 9340.....	W/1800 W/1800
D 2	Rectifier Bridge.....	ITT STANDARD B 40-C 2200 SIEMENSE B 40-C 2200 AEG B 40-C 2200	Y/14 - Y/15 Y/14 - Y/15 Y/14 - Y/15
<u>PA 355</u>	<u>VOLTAGE REGULATOR BOARD (DWG A1/SE 166)</u>		<u>6449/1124501</u>
Q 1	Series Stabilizer.....	SGS BC 286.....	W/1601
D 1	Rectifier Diode (Bridge).....	MISTRAL SFD 182..... TEXAS 1N 914.....	B/77 B/108
Z 1	Voltage Reference-Diode Zener.. (13V-1W)	IRCI 1 Z 13..... MOTOROLA 1N4743.....	B/105 B/105
Z 2	Voltage Reference-Diode Zener.. (15V-400mV)	ITT STANDARD ZF 15.... MOTOROLA 1N5245-B.....	B/106
<u>PA 359</u>	<u>POWER AMPLIFIER BOARD (DWG A1/SE 166)</u>		<u>6450/1124601</u>
Q 3	Input Preamplifier PNP.....	SGS 1W 9640.....	W/89 - W/1500
Q 4	Temperature Compensator.....	MISTRAL BC 207 A or B. BC 209 B or C.	W/1401 W/1407 - W/1410
Q 5	Driver Amplifier NPN.....	SGS BC 286.....	W/1601
Q 6	Driver NPN.....	SGS BC 286.....	W/1601
Q 7	Driver PNP.....	SGS BC 287.....	W/1702
Q 8 - Q 9	Power Transistors.....	WESTINGHOUSE 156-043.. SOLITRON H 9340.....	W/1800 W/1800

Models 151 & 152

TRANSISTORS (Q) & DIODES (D) LIST

2

Schem.Ref.	Circuit	Type	Part Code
<u>PA 357 - 3</u>	<u>OSCILLATOR (DWG 2/ SE 169)</u>		<u>6029/1124511</u>
Q a 1	MVBTR. Master Oscillator.....	BC 108 A,B or C.....	W/1406
Q a 2	MVBTR. Master Oscillator.....	BC 109 - B or C.....	W/1409 - W/1412
Q a 3	Buffer Amplifier.....	BC 208 A,B or C.....	W/1404
		BC 209 - B or C.....	W/1407 - W/1410
		2N5172.....	W/1425
D a 1	Base Breakdown Protection.....	SGS 1X9809.....	B/34
D a 2			
<u>PA 447 - 1</u>	<u>KEYSWITCH BOARD U.M. (DWG 4/ SE 169)</u>		<u>6533/1124571</u>
I.C. 1 - 8	Integrated Frequency Divider..	GIE.....	W/1100 - W/1101
<u>PA 427</u>	<u>KEYSWITCH BOARD L.M. (DWG 4/ SE 169)</u>		<u>6454/1124511</u>
I.C. 1	Integrated Frequency Divider..	GIE.....	W/1100 - W/1101
<u>PA 456</u>	<u>UPPER MANUAL FILTERS BOARD (DWG 5/ SE 169)</u>		<u>6535/1124571</u>
Q c 1	Lesliechannel Preamplifier....	{ BC 209 - B red dot.... BC 239 - B red dot....	W/1413
Q c 2	Lesliechannel Final Preamplifier		
Q c 3	Mainchannel Preamplifier.....		
Q c 4	Mainchannel Final Preamplifier		
<u>PA 337 - 3</u>	<u>REVERB. VIBRATO BOARD (DWG 6/ SE 169)</u>		<u>6534/1124571</u>
Q e1-Q e2	Reverberation Preamplifier....	BC 109 B or C.....	W/1409 - W/1407
		BC 209 B or C.....	
Q e 3	Reverberation Driver.....	SGS BC 286.....	W/1601
Q e 4	Reverberation Preamplifier....	BC 109 B or C, red dot	W/1415 - W/1413
		BC 209 B or C, red dot	
Q e 5	Vibrato Oscillator.....	BC 109 B or C.....	W/1409 - W/1407
Q e 6	Vibrato Buffer.....	BC 209 B or C.....	

Models 151 & 152

TRANSISTORS (Q) & DIODES (D) LIST

3

Schem. Ref.	Circuit	Type	Part Code
<u>PA 459</u>	<u>AUTOMATIC BASS - ATTACK BOARD (DWG 6/SE 169)</u>		<u>6537/1124571</u>
Q f 1	Automatic Bass Driver.....	G.E. 2N 5172.....	W/1425
Q f 2-Q f 3	Automatic Bass Frequency Divid	BC 109 B or C.....	W/1412 - W/1409
		BC 209 B or C.....	W/1407 - W/1410
Q f 4	Attack Control.....	BC 109 B or C.....	W/1412 - W/1409
		BC 209 B or C.....	W/1407 - W/1410
Q f 5	Attack Control.....	G.E. 2N 5172.....	W/1425
		BC 109 B or C.....	W/1412 - W/1409
		BC 209 B or C.....	W/1407 - W/1410
D f 1	Attack Gate.....	SGS 1X9809.....	B/34
		TEXAS D 525 A or B.....	B/110 - B/111
<u>PA 435 - 1</u>	<u>PREAMPLIFIER MIKE (DWG 7/ SE 169)</u>		<u>6551/1125601</u>
Q i 1-Q i 2	Preamplifier Transistors.....	BC 209 B or C.....	W/1413
		BC 239 B or C.....	
		BC 109 B or C.....	W/1416 - W/1415
		BC 149 B.....	W/1418 - W/1414
<u>PA 252 - 1</u>	<u>SUSTAIN - PEDALBOARD (DWG 8/ SE 169)</u>		<u>6460/1124511</u>
Q g 1	Pulse Amplifier.....	G.E. 2N 5172.....	W/1425
		BC 109 B or C.....	W/1412 - W/1409
		BC 209 B or C.....	W/1407 - W/1410
Q g 2	Reset.....	BFW 87 (Mullard).....	W/153
Q g 3	Audio Preamplifier.....	BC 109 B or C red dot..	W/1415 - W/1418
		BC 209 B or C red dot..	W/1413 - W/1416
D g1-D g26	Memory gate and Reset.....	SGS 1X9809.....	B/34
Dg27-D g28	Sustain gate.....	TEXAS D 252 A or B.....	B/110 - B/111

Models 151 & 152

TRANSISTORS (Q) & DIODES (D) LIST

4

Schem.Ref.	Circuit	Type	Part Code
<u>PA 258</u>	<u>DIVIDER MODULE (DWG 8/ SE 169)</u>		<u>6133/154</u>
Q h 1	Frequency Divider.....	G.E. 2N 5172.....	W/1425
Q h 2			
<u>PA 446</u>	<u>EASYCHORD MERORY (DWG B/ SE 174)</u>		<u>6530/1124601</u>
I.C. aa 1	Gate with 10 Emitter.....	GIE - MISTRAL.....	W/1100 - W/1101
I.C. aa 2	Divider Frequency.....	ITT - STANDARD TBA 470	W/1202
Z aa 1	Voltage Reference-Diode Zener (5,6-400mA)	ITT - STANDARD ZPD 5,6 MULLARD BZX79 C5V6.... IRCI - 1N 752A..... MOTOROLA - 1N 5232B...	B/69
D aa 1	Matrix Diodes.....	[SGS - IX9809..... TEXAS - D 525 A or B..	B/34
D aa 2	Diodes.....		B/110 - B/111
D aa 3	Threshold Diode.....		